Amendments to the Claims

This listing of claims will replace all prior versions and listings of claims in the application.

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Listing of Claims:

Claims 1-11 (cancelled)

Claim 12 (new). A method of reducing a crest factor of a data symbol to be transmitted in a multi-carrier data transmission system, in which the data symbol is a function of a plurality of signals provided within a predetermined time interval, each of the plurality of signals allocated to a carrier, each carrier occupying at least one frequency from a transmit data spectrum, at least one carrier having at least some reserved data carrying capacity, the method comprising:

(a) performing an IFFT transformation of the data symbol to be transmitted;

(b) identifying peak values within a frame of the IFFT-transformed data symbol above a predetermined threshold;

(c) providing a sample correction function;

(d) generating one or more vectors by allocating a scaling and phase rotation to the sample correction function according to the amplitude and position of the identified peak values;

(e) generating a correction signal in the frequency domain from a linear combination of the one or more vectors;

(f) modifying the peak value of the data symbol to be transmitted by subtracting the correction signal; and

(g) providing the modified data symbol in the time domain.

Claim 13 (new). The method according to claim 12, further comprising, after step (b), oversampling and/or filtering of the IFFT-transformed data symbol.

Claim 14 (new). The method according to claim 12, wherein:

the data symbol to be transmitted is in the time domain prior to modification in step (f).

Claim 15 (new). The method according to claim 12 wherein:

step (g) further comprises performing an IFFT transformation on the modified data symbol.

Claim 16 (new). The method according to claim 12, wherein step (c) further comprises providing the sample correction function as a dirac-like function.

Claim 17 (new). The method according to claim 12, wherein the at least one carrier having at least some reserved data carrying capacity is occupied exclusively by zero values.

Claim 18 (new). The method according to claim 12, wherein the at least one carrier

having at least some reserved data carrying capacity is occupied with additional data.

Claim 19 (new). A circuit for reducing a crest factor of a data symbol to be transmitted in a multi-carrier data transmission system, in which the data symbol to be transmitted is a function of a plurality of signals provided within a predetermined time interval, each of the plurality of signals allocated to a carrier, each carrier in each case occupying at least one frequency from a transmit data spectrum, at least one carrier having at least some reserved data carrying capacity, comprising:

(A) a transmit signal path configured to propagate a data signal to be transmitted;

(B) a second signal path arranged in parallel with at least a portion of the transmit path, the second signal path including,

- a first IFFT module configured to transform the data symbol to be transmitted into the time domain,

- a first unit configured to determine at least one peak value within a predetermined time interval of the transformed data signal,

- a second unit configured to generate a correction signal in the frequency domain from a linear combination of rotated and scaled vectors according to a scaling and position of the peak values determined; and

(C) a combining device connected to an output of the second signal path and to the transmit path configured to superimpose the correction signal on the data symbol to be transmitted on the transmit signal path.

Claim 20 (new) The circuit according to claim 19, further comprising:

(D) a second IFFT module configured to transform the data symbol modified by the correction signal.

Claim 21 (new). The circuit according to claim 19, wherein the second signal path further comprises a second IFFT module configured to transform the correction signal into the time domain, and wherein the second IFFT module is operably coupled to provide the transformed correction signal to the combining device.

Claim 22 (new). The circuit according to claim 19, wherein the second signal path further comprises an oversampling unit configured to oversample the data symbol to be transmitted.

Claim 23 (new). The circuit according to claim 19 wherein the second signal path further comprises a non-recursive model filter having a characteristic of one or more filters following the combining device.

Claim 24 (new). The circuit according to claim 19 wherein the non-recursive model filter comprises an FIR filter.

Claim 25 (new). The circuit according to claim 19, wherein the first unit comprises a programmable processing device.

Claim 26 (new). The circuit according to claim 25, wherein the second unit also

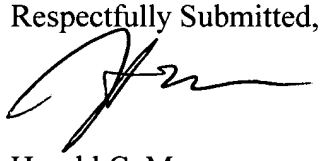
comprises the programmable processing device.

Claim 27 (new). The circuit according to one of claim 21, wherein the second IFFT module is configured such that only a first set of carrier frequencies corresponding to the at least one carrier having at least some reserved data carrying capacity can be supplied to the second IFFT module, and wherein a second set of carrier frequencies can be supplied to the first IFFT module.

IV. Conclusion

For all the foregoing reasons, it is respectfully submitted that the applicants have made a patentable contribution to the art. Favorable reconsideration and allowance of the application is therefore earnestly solicited.

Respectfully Submitted,



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